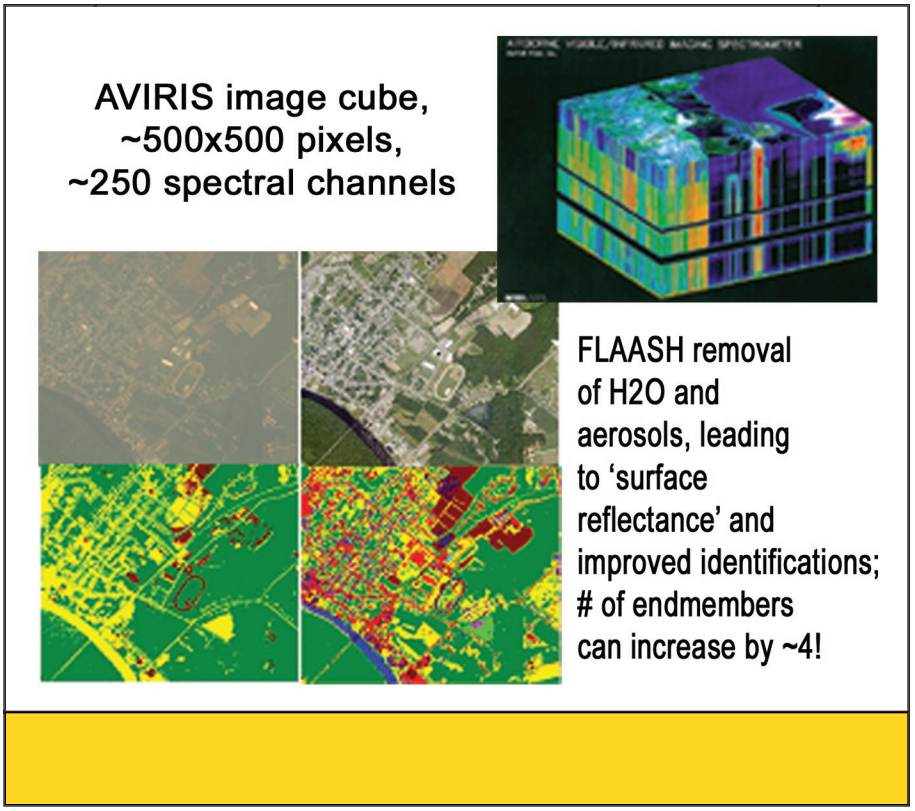
Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

25 YEARS OF PROGRESS IN ATMOSPHERIC TRANSMISSION



The Department of Defense (DoD) Atmospheric Transmission Conference attracts important members of the atmospheric electro-optical communities from within the DoD, such as the Space Vehicles Directorate; other government agencies; universities; and the international arena including the North Atlantic Treaty Organization partners. The data exchange and knowledge base helped solve important or difficult operational problems.

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Accomplishment

Over its 25-year history, the interaction at the DoD Atmospheric Transmission Conference helped solve important or difficult operational problems. Among these are development and validation of Air Force models and codes that equip DoD agencies with the ability to model, simulate, and compensate/correct data related to evolving surveillance systems for background atmospheric effects. Some of the directorate's codes enabled by the conference's 25-year history include: MODTRAN, SAMM, SHARC, AURIC, MOSART, PLEXUS, AARC, FASCODE (all related to simulation capabilities), and FLAASH (plus its derivatives), which infer surface properties from measured radiances.

Background

New technologies require the evolution of physics-based models that involve detailed knowledge and understanding of atmospheric absorption, scattering, structure, local thermodynamic equilibrium (LTE) and non-LTE, molecular spectroscopy, atmospheric composition, surface characterization, hyperspectral imaging, laser propagation, polarization theory, and many other areas of expertise.

Space Vehicles
Support to the Warfighter

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (02-VS-10)